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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/148,723 | 09/03/1998 | WARREN M. FARNWORTH | MI22-981 | 3884 |

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[REDACTED] EXAMINER

TUGBANG, ANTHONY D

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 3729 | |

DATE MAILED: 11/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------------------------|-------------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/148,723 | FARNWORTH ET AL. |
| | Examiner Dexter Tugbang | Art Unit 3729 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 19 August 2002.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-3,6,8,11,13,20,22,23,26,27,30,31,36,37,45 and 48-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 1-3,6,8,11,13,20,22,23,26,27,30,31,36,37,45 and 48-53 is/are allowed.
- 6) Claim(s) _____ is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>33</u> . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

1. The Finality of the previous Office Action has been withdrawn in view of the following.

2. This application is in condition for allowance except for the following formal matters:

In Claim 1, --of the bond pads—should be inserted before “one the substrate” (line 5) and the term “the” (2nd occurrence on line 5) should be deleted.

In Claim 3, --individual—should be inserted before “bond pads” (line 1); and the term –the—should be inserted before “individual” (line 4); the phrase of –of solder—should be inserted after “the balls” (line 6); and “their associated” (line 7) should be replaced with –the individual--.

In Claim 6, “exposing” (line 1) should be replaced with –the step of exposing further--.

In Claim 8, “exposing” (line 1) should be replaced with –the step of exposing further --; the phrase “their associated” (line 2) should be replaced with –the--; and –of the balls of solder—should be inserted after “ball-to-ball” (line 3).

In Claim 11, “placing” (line 2) should be replaced with –the step of placing further --; the term “exposing” (line 4) should be replaced with –the step of exposing further--; and “their (line 4) should be replaced with –the--.

In Claim 13, --the—should be inserted before “individual” (line 5); the term –associated—should be inserted before “bond pads” (line 8); and “their” (line 9) should be replaced with –the--.

In Claim 20, “bonding” (line 1) should be replaced with –the step of bonding further--; and “their” (line 2) should be replaced with –the--.

In Claim 22, “bonding” (line 1) should be replaced with –the step of bonding further--; “their” (line 2) should be replaced with –the--; “the position” (line 2) should be replaced with –a position--; and –of the balls of solder—should be inserted before “to effectuate” (line 4).

In Claim 23, --of the balls of solder—should be inserted before “solder ball” (line 9); and “their individual” (line 11) should be replaced with –the associated--.

In Claim 26, --the—should be inserted before “individual” (line 2).

In Claim 27, “a” (line 4) should be replaced with –the--; “balls’s” (line 6) should be deleted; and –of the ball—should be inserted before “by dipping” (line 7); and “the” (2nd occurrence at line 7) should be deleted.

In Claim 30, “bonding” should be replaced with –the step of bonding further--.

In Claim 31, “a” (line 4) should be replaced with –the--.

In Claim 36, “bonding” (line 1) should be replaced with –the step of bonding further--; and “ball to an associated one of” (line 2) should be replaced with –of the balls of solder to--;

In Claim 37, “bonding” (line 1) should be replaced with –the step of bonding further--; “the” (1st occurrence on line 3) should be replaced with –a--; and “ball into the” should be replaced with –of the balls into a--.

In Claim 45, “exposing” should be replaced with –the step of exposing further--.

In Claim 48, “a” (line 3) should be replaced with –the--; “the” (1st occurrence at line 6) should be deleted; --of the balls of solder—should be inserted after “portions” (line 6); “their associated” (line 7) should be replaced with –the individual--; and “their associated” (line 8) should be replaced with –the individual--.

In Claim 49, “exposing” (line 1) should be replaced with –the step of exposing further--; “their associated” (line 3) should be replaced with –the individual--; “the” (line 3) should be replaced with –a--; and –of the balls of solder—should be inserted after “ball-to-ball” (line 4).

In Claim 50, “placing” (line 2) should be replaced with –the step of placing further--; “individual” (line 2) should be replaced with –the--; “exposing” (line 4) should be replaced with –the step of exposing--; and –further—should be inserted before “comprises” (line 5); and “their” (line 5) should be replaced with –the--.

In Claim 51, “a plurality” (line 3) should be replaced with –the plurality--; and “the ball portions” (line 6) should be replaced with –portions of the balls of solder--.

In Claim 52, --the step of—should be inserted before “laser” (line 1); “their associated” (line 2) should be replaced with –the individual--; the term –further—should be inserted before “comprises” (line 2); “the” (2nd occurrence on line 2) should be replaced with –a--; and –of the balls of solder—should be inserted after “ball-to-ball” (lines 3-4).

In Claim 53, “placing” (line 2) should be replaced with –the step of placing further--; “individual” (line 2) should be replaced with –the--; --the step of—should be inserted before “laser bonding” (line 4); and –the—should be inserted after “within” (line 5).

3. In is noted that the examiner attempted to resolve the above issues via a telephone call to Mr. Frederick M. Fliegel on October 31, 2002. However, applicants’ attorney was not available at this time for an agreement to be reached. Any delay in prosecution is deeply regretted.

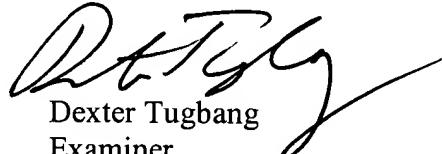
4. Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3590 for regular communications and 703-305-3588 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.



Dexter Tugbang
Examiner
Art Unit 3729

adt
November 1, 2002